SMART team efforts toward FY21 SOW deliverable #1 included software updates for the bulk data reference server implementation for compliance with Argonaut build v1.5 leading up to the January 2021 HL7 FHIR Connectathon. Vlad Ignatov and Jake Lambert participated in the Bulk FHIR track of the connectathon, made the updated SMART server, client tool, and bulk data testing tools available to the community for testing during the connectathon, and incorporated community feedback into the latest version of our implementation.

Technical details on how each tool/system was updated are below.

**Bulk Data Server**
- The Server parses the Accept request header on kick-off requests ([https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#headers](https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#headers))
- The Server now sends an Expires response header to signal how long the export is good for ([https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#response-complete-status](https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#response-complete-status))
- Improved token validation
- Clean up unfinished exports after a "max age" configuration setting

**Bulk Data Client**
- Export job transient errors are now supported (the use is asked if he would like to retry). ([https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#bulk-data-status-request](https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#bulk-data-status-request))
- The error payload property is now supported ([https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#response-complete-status](https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#response-complete-status))
- If passed down by the server, the Retry-After response header will be used by the bulk data CLI client to determine how frequently the status endpoint can be polled ([https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#bulk-data-status-request](https://github.com/HL7/bulk-data/blob/master/input/pagecontent/export.md#bulk-data-status-request))
- Added --output-format parameter to support custom output formats (application/fhir+ndjson, application/ndjson, ndjson)
• Accept request header is now sent by the Client

BDT, BDT tests and BDT sample app
• Added tests for 202 Accepted Status Code
• Added tests for the _typeFilter parameter
• Improved duration formatting
• Improved handling of FHIR servers that respond with XML by default
• Added customHeaders configuration option for servers that expect proprietary request headers (eg. Cerner)